



(21)(A1) **2,178,966**
(22) 1996/06/14
(43) 1997/12/15

(72) White, Jody, US

(72) Leo, Mark, US

(72) Sacco, Gregory, US

(71) Leo, Mark, US

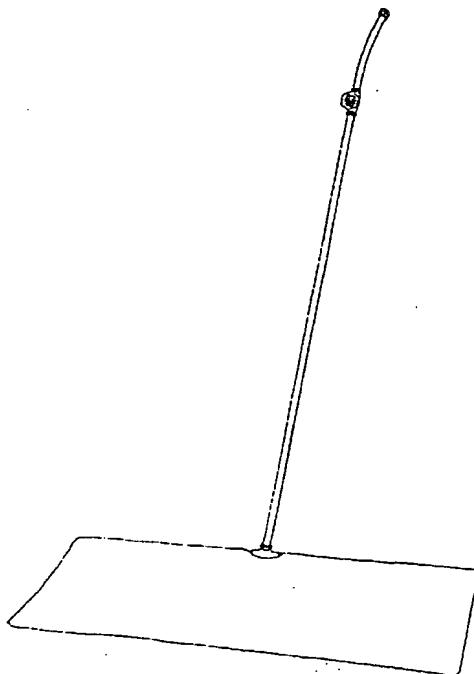
(71) Sacco, Gregory, US

(71) White, Jody, US

(51) Int.Cl.⁶ E01H 4/02, E01H 5/02

(54) **RINKMATE - SURFACEUSE MANUELLE DE PATINOIRE**

(54) **RINKMATE - MANUAL ICE RESURFACER**



(57) Outil à main en forme de "T" utilisé avec un boyau d'arrosage standard pour le resurfaçage de la glace d'une patinoire. Le réseau de tuyauterie, qui se raccorde au boyau au moyen de la pièce à main, est fait de conduits rigides, en aluminium pour la poignée/pièce à main et en cuivre pour un tuyau de distribution perforé, et il incorpore un robinet pour le réglage du débit d'eau. Le réseau de tuyauterie alimente un balai qui entoure complètement le tuyau de distribution. Le balai est fait d'une toile absorbante qui dissout la neige et les particules de glace détachées de la surface et distribue uniformément l'eau de resurfaçage quand elle passe à la surface de la patinoire.

(57) A handheld, "T" shaped tool used, in conjunction with standard garden hose, for resurfacing ice skating rinks. The piping system, which attaches to the hose at the handpiece, is made of rigid conduit, both aluminum for handle/handpiece and copper for a perforated distribution pipe and incorporates a valve for water flow control. The piping system feeds a sweep that fully surrounds the distribution pipe. The sweep is made of an absorbent cloth fabric that both dissolves loose snow and ice particles and evenly distributes resurfacing water when pulled along surface during operation.

Rinkmate-Manual Ice Resurfacer

Abstract of disclosure: A handheld, "T" shaped tool used, in conjunction with standard garden hose, for resurfacing ice skating rinks. The piping system, which attaches to the hose at the handpiece, is made of rigid conduit, both aluminum for handle/handpiece and copper for a perforated distribution pipe and incorporates a valve for water flow control. The piping system feeds a sweep that fully surrounds the distribution pipe. The sweep is made of an absorbent cloth fabric that both dissolves loose snow and ice particles and evenly distributes resurfacing water when pulled along surface during operation.

Patent Application of
Mark A. Leo, Gregory M. Sacco, & Jody G. White
for
RINKMATE-MANUAL ICE RESURFACER

This invention relates to the process by which ice skating rinks are resurfaced. Specifically, but not limited to, private "Backyard" ice skating rinks.

The most common method of resurfacing ice skating rinks is simply to flood the surface with water through a standard garden hose or, in the commercial application i.e., indoor skating rinks, a motorized resurfacing vehicle is used. However, due to the extreme temperatures and conditions associated with this activity, the water, when applied through only a standard garden hose, freezes before it is evenly distributed and has dissolved any remaining snow or ice particles thus creating an uneven and unsafe skating surface.

Another disadvantage to this method is the inability to control the flow of water. Often times an excess of water is used to either compensate for unevenness or to simply speed the process up. When using the Rinkmate very little water and time are needed to create a safe and desirable skating surface.

As this process applies to Commercial-indoor ice rinks the most common and effective means is by use of a motorized resurfacing vehicle with resurfacing features controlled by the vehicle operator. However, most facilities have no backup should the vehicle become disabled. The Rinkmate is the perfect solution to this problem.

THE Rinkmate attaches to a standard garden hose. Water from the hose travels through the Rinkmates piping system and saturates a cloth sweep . As the Rinkmate is pulled along the surface, the saturated sweep dissolves loose snow and ice particles as it passes over them and distributes a thin-even coat of water. Water flow is controlled by a standard 3/4 inch Gatevalve attached near the handle. The Rinkmate allows the user to walk at a steady-consistant pace without doubling over areas already covered. As a result the entire surface is covered evenly in a fraction of the time and with a considerably less amount of water than that used in conventional methods.

Drawing Figures and Descriptions**Figure 1**

Figure 1 shows fully assembled Rinkmate.

Figure 2

Figure 2 is an exploded view of all parts with numerical reference.

- 1 - Brass swivel Adapter: 3/4 inch NPT* x 3/4 inch Hose Thread.
- 2 - Handpiece: 3/4 inch x 12 inch Rigid Aluminum Conduit threaded on both ends
- 3 - Brass Gatevalve: 3/4 inch x 3/4 inch threaded.
- 4 - Handle: 3/4 inch x 48 inch Rigid Aluminum Conduit threaded on both ends.
- 5 - Brass Tee: 1 inch x 1 inch(SF**) x 3/4 inch female thread.
- 6 - Distribution pipe: 1 inch x 22 inch copper tubing with 1/4 inch holes drilled 3 inches apart.Outlet holes will face directly foward when fully assembled and in position for use.
- 7 - Endcaps: 1 inch copper (SF**)
- 8 - Sweep: 24 inch x 48 inch cotton fabric(12 inch x 48 inch when folded over distribution pipe for assembly)

* - National Pipe Thread

** - Solder-Female

Note: Various Fitting types indicate applicable means of connection; i.e., Threaded// Soldered

Description cont.

A standard Garden Hose is connected to the Rinkmate at the Swivel Adapter 1. Water travels through the Handpiece 2 to the Gatevalve 3. The Gatevalve 3 can be left closed until user is ready to begin re-surfacing. Once in position, the user opens the Gatevalve 3 the desired amount depending on water source (Private Well/Municipal supply) and surface condition (The smoother the surface, the less water is needed). Water then travels down the Handle 4 to the Tee 5 and into the Distribution Pipes 6. Each Distribution Pipe 6 has seven 1/4 inch outlet holes drilled laterally and spaced 3 inches apart starting approximately 1 inch from Endcaps 7. Water exits through the outlet holes and into the Sweep 8. The Sweep 8 is made of absorbant Cotton fabric. A small hole is cut in the center of the Sweep 8 to facilitate assembly of Tee 5 to Handle 4. The Distribution Pipe 6 is placed in the center of the Sweep 8 which is than folded over and the three open seems are stitched closed. This ensures that the Sweep 8, when fully saturated, will distribute the water evenly as it passes over the surface.

Claim

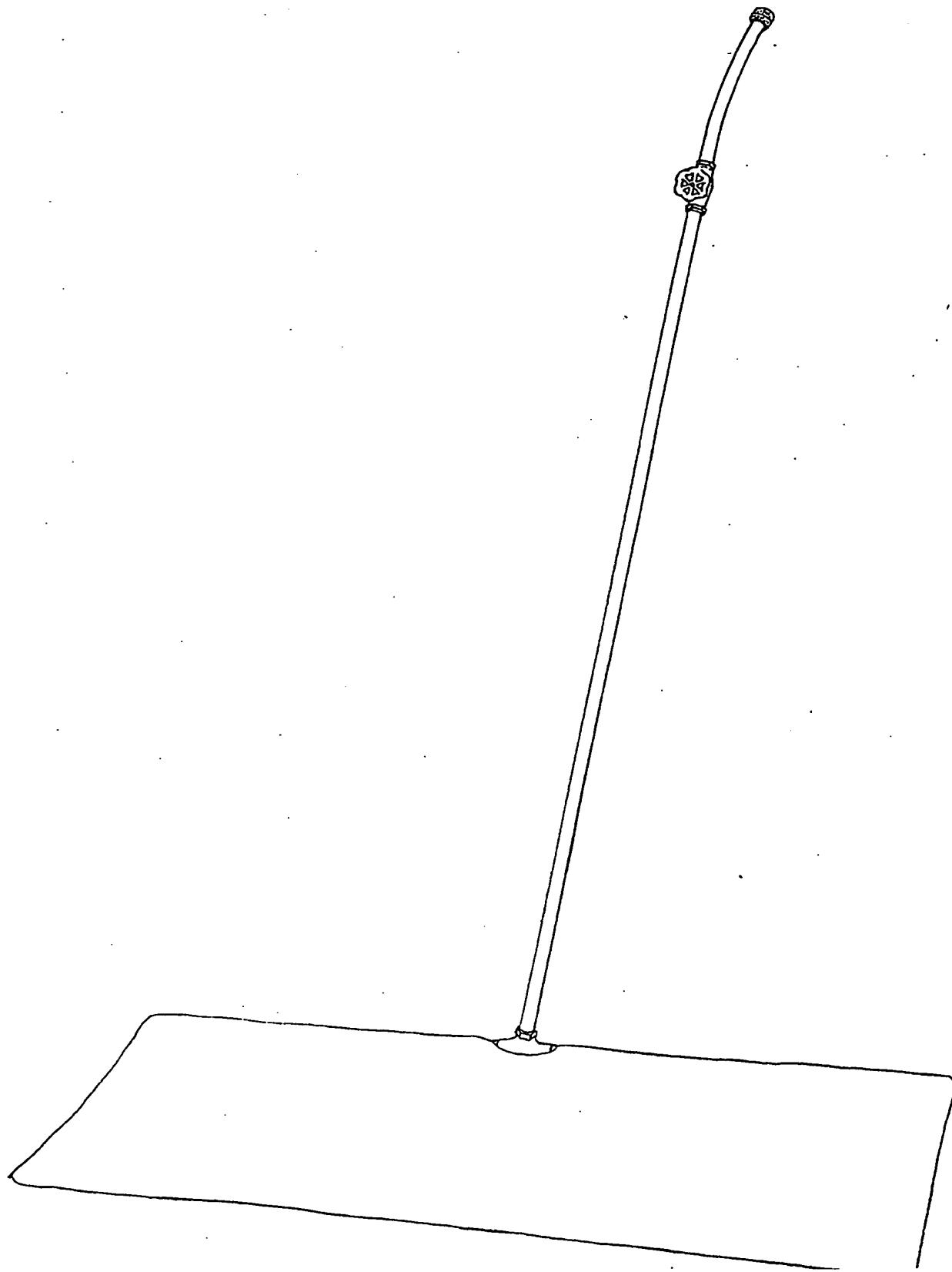
Rinkmate-Manual Ice Resurfacer

A hand held manual ice rink resurfacing tool comprising:

- a. a two piece piping system that attaches to a standard garden hose and consists of:
 1. upright handle/handpiece with valve and
 2. a perforated distribution pipe attached perpendicularly to the end of the handle at its center point for water distribution and
- b. an absorbent fabric sweep, folded over, and containing said distribution pipe thus absorbing all water expelled from said distribution pipe, and when fully saturated, employing a process by which all loose snow and ice particles are dissolved leaving a thin-even coat of water as entire unit is pulled along surface.

Rinkmate-Manual Ice Resurfacer
Figure 1

2178966



Rinkmate-Manual Ice Resurfacer
Figure 2

2178966

